

WHAT IS CLAIMED IS:

1. A method of effecting a handoff in a cellular network, comprising the steps of:

(a) monitoring a set of frequencies listed in a mobile assisted handoff (MAHO) list for their respective signal strengths;

(b) logically ordering the frequencies based on their relative signal strengths;

(c) identifying in the logically ordered set of frequencies those frequencies having a signal strength higher than a predetermined threshold;

(d) associating a cellular site with at least each frequency in the set of frequencies that has a signal strength higher than the predetermined threshold;

(e) determining a level of traffic at each cellular site identified in step (d); and

(f) selecting a cellular site for handoff based at least in part on signal strength and in part on the level of traffic.

2. The method of claim 1, wherein the MAHO list is generated by a mobile switching center (MSC).

3. The method of claim 1, wherein the predetermined threshold is a signal strength above which a communications link between a mobile device and a cellular site can be readily maintained.

4. The method of claim 1, wherein step (e) comprises representing the level of traffic with labels.

5. The method of claim 1, wherein step (e) comprises representing the level of traffic with numerical values.

6. The method of claim 1, wherein step (f) comprises determining which frequency of the frequencies having a signal strength higher than the predetermined threshold has the lowest level of traffic.

7. The method of claim 1, further comprising selecting the cellular site based in part on a projected route of a mobile device.

8. The method of claim 1, further comprising selecting the cellular site based in part on cellular site load patterns.

9. The method of claim 1, wherein a mobile switching center (MSC) implements steps (a) - (f).

10. The method of claim 1, further comprising receiving the signal strengths from a mobile device.

11. The method of claim 1, wherein steps (a) - (f) are implemented at least in part with software.

12. A method of coordinating handoff for a mobile device in a cellular network, comprising the steps of:

(a) receiving data corresponding to signal strengths of a plurality of frequencies, the frequencies being associated with a plurality of neighbor cell site handoff candidates;

(b) determining which candidates of the plurality of neighbor cell site handoff candidates have signal strengths greater than a predefined threshold and currently have capacity;

(c) determining a level of traffic on at least a portion of the candidates identified in step (b); and

(d) selecting a cell site to hand off to based at least in part on the level of traffic being handled by the handoff candidates.

13. The method of claim 12, wherein the mobile device transmits the data of step (a).

14. The method of claim 12, wherein step (c) comprises accessing at least one of a database and switching infrastructure information.

15. The method of claim 12, wherein step (c) comprises representing the level of traffic with a label.

16. The method of claim 12, wherein step (c) comprises representing the level of traffic with a numerical value.

17. The method of claim 12, wherein step (d) comprises selecting the candidate handling the least amount of traffic.

18. The method of claim 12, wherein step (d) comprises selecting a candidate handling more traffic than a candidate handling the least amount of traffic.

19. The method of claim 12, further comprising selecting the cellular site based in part on the route of a mobile device.

20. The method of claim 12, further comprising selecting the cellular site based in part on cellular site load patterns.

21. In a cellular network, a method of selecting a cell site to receive a handoff, the method comprising the steps of:

(a) identifying criteria upon which to select a cell site for handoff,

(b) receiving signal strengths of frequencies identified in a mobile assisted handoff (MAHO) list, thereby identifying handoff candidate cell sites; and

(c) applying the criteria to the handoff candidate cell sites to select one cell site for handoff,

wherein the criteria does not include highest signal strength.

22. The method of claim 21, wherein the criteria includes at least one of cell site traffic, load patterns and mobile device travel route.

23. The method of claim 21, wherein the criteria includes threshold signal strength and cell site traffic.

24. The method of claim 21, further comprising dropping a communications link if no cell site is selected based on the identified criteria.

25. The method of claim 21, wherein at least step (c) is implemented in a mobile switching center (MSC).

26. The method of claim 25, wherein at least step (c) is implemented at least in part in software.

27. In a cellular network, a method of selecting a cell site to receive a handoff, the method comprising the steps of:

- (a) identifying criteria upon which to select a cell site for handoff,
- (b) receiving signal strengths of frequencies identified in a mobile assisted handoff (MAHO) list, thereby identifying handoff candidate cell sites; and
- (c) applying the criteria to the handoff candidate cell sites to select one cell site for handoff,

wherein the criteria are not based solely on signal strength.

28. The method of claim 27, wherein the criteria includes at least one of cell site traffic, load patterns and mobile device travel route.

29. The method of claim 27, wherein the criteria includes threshold signal strength and cell site traffic.

30. The method of claim 27, further comprising dropping a communications link if no cell site is selected based on the identified criteria.

31. The method of claim 27, wherein at least step (c) is implemented in a mobile switching center (MSC).

